



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/701,330	11/27/2000	Yuusaku Shimaoka	10873 610USWO	7900

7590

03/13/2003

Douglas P Mueller
P O Box 2903
Minneapolis, MN 55402-0903

EXAMINER

CARIASO, ALAN B

ART UNIT

PAPER NUMBER

2875

DATE MAILED: 03/13/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/701,330

Applicant(s)

SHIMAOKA ET AL.

Examiner

Alan Cariaso

Art Unit

2875

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-52 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 8-19, 21, 23, 31-43 and 45-52 is/are allowed.
- 6) ☒ Claim(s) 1-7, 20, 22, 24-27, 29 and 30 is/are rejected.
- 7) ☒ Claim(s) 28 and 44 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 November 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the positioning member for fixing a condensed-state confirming means (claim 4) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Objections

2. Claim 44 is objected to because of the following informalities: Claim 44, line 2, the limitation "a second optical basis position" appears to be the same limitation recited in claim 42, line 16. The limitation in claim 44 should be addressed with definite article —the—in place of "a". Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Art Unit: 2875

4. Claims 1, 4, 5 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by HIRAMATSU (JP 4-331942).

5. HIRAMATSU discloses a light source apparatus (17-fig.3) comprising a light source (25) and a concave mirror (19), the light source apparatus (17) comprising: a movable substrate (29,31) that is set on a bottom plate (27) and is movable in traveling direction of the light condensed by the concave mirror (19); and a concave mirror anchoring plate (29d,47) for anchoring the concave mirror (19) to the movable substrate (29); further comprising on the bottom plate (27), a positioning member (32-fig.5); further comprising a movable substrate fixing member (29a-fig.5) for fixing the movable substrate (29) to the bottom plate (27); an optical means (parabolic shape of reflector surface 28a, fig.4) for converting light condensed by the concave mirror (19 or 28) into approximately parallel light (solid lines of light in fig.2a).

6. As for the phrase in claim 4 "for fixing a condensed-state confirming means used when adjusting a position of the concave mirror with respect too the bottom plate", a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963).

7. Claims 1, 5 and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by PECK (US 5,295,056).

8. PECK discloses a light source apparatus (fig.1) comprising a light source (74-fig.5) and a concave mirror (78), the light source apparatus comprising: a movable substrate (86-fig.1) that is set on a bottom plate (46; col.4, lines 8-12) and is movable in traveling direction of the light condensed by the concave mirror (78); and a concave mirror anchoring plate (80) for anchoring the concave mirror (78) to the movable substrate (86); further comprising a movable substrate fixing member (92,94-fig.2) for fixing the movable substrate (86) to the bottom plate (46); wherein the concave mirror (78) is an ellipsoidal mirror (col.4, line 49).

9. Claims 24-27 are rejected under 35 U.S.C. 102(b) as being anticipated by GRAHAM (US 1,909,946).

10. GRAHAM discloses an adjusting device for adjusting an optical arrangement; a light source apparatus comprising a light source (col.5, lines 86-95), a concave mirror (a-fig.2), a movable substrate (57-fig.2) that is set on a bottom plate (10 by at least sleeve 27) and is movable in traveling direction (col.3, lines 65-84) of the light condensed by the concave mirror (a); and a concave mirror anchoring plate (82 or 93, fig.2) for anchoring the concave mirror (a) to the movable substrate (57); an adjusting light source (52), an adjusting light source fixing means (32) that is attached to the concave mirror anchoring plate (93 via 92) and fixes a center of a luminous part (52) of the adjusting light source at a predetermined optical position (fig.2) with respect to the

concave mirror (a); wherein the predetermined optical position is a first focal point of the concave mirror (col.1, lines 16-27); further comprising a condensed-state confirming means (91,95; col.4, line 122 to col.5, line 2) for observing a state of light emitted from the adjusting light source condensed by the concave mirror (a); wherein the condensed-state confirming means has a surface (91) on which light is condensed, which is set perpendicularly (fig.2) to an optical axis of light emitted (94) from the adjusting light source (52) and reflected by the concave mirror (a).

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over PECK (US 5,295,056) in view of BLAISDELL et al (US 4,388,679).

13. PECK discloses applicant's claimed invention except the concave mirror fixing member being a plate spring made of stainless steel and a thickness of the plate spring being greater than 0.2 mm, but smaller than 0.5 mm.

14. BLAISDELL teaches leaf springs (81'-fig.5) made of stainless steel (col.8, lines 18-19) for the purpose of fixing or engaging the concave mirror (13-fig.3) to upright plate (41-figs.1,2). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the concave mirror anchoring plate of the

projection lighting unit apparatus of PECK to include the type of steel plate springs or fixing means as taught by BLAISDELL in order to removably engage the concave mirror onto the upright support plate that positions the concave mirror.

15. As for the claimed thickness of the plate spring of $0.2 \text{ mm} < t < 0.5 \text{ mm}$, BLAISDELL does teach a thickness of 0.02 inches (col.8, line 19) which (from 0.03937 inches per 1 mm) is 0.5 mm. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the projection mirror fixing assembly of PECK with the springs of BLAISDELL of thickness to be less than 0.5 mm since the claimed ranges and the prior art ranges are close enough that one skilled in the art would have expected them to have the same properties and further being motivated to use plate springs of the claimed thickness to make them more deflectable and therefore allow some angular adjustability of the mirror. See *Titanium Metals Corp. of America v. Banner*, 778 F. 2d 775, 227 USPQ 773 (Fed. Cir. 1985).

16. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over PECK (US 5,295,056) in view of GUILLAUME (US 4,110,036).

17. PECK discloses applicant's claimed invention except a positioning member on the bottom plate. GUILLAUME teaches a positioning member (26,27-fig.1) on a bottom support (2,3) for the purpose of fixing a photo-electric cell (22, col.2, lines 51-60) confirming light setting (col.2, lines 64-66) used when adjusting a position of the mirror-light assembly (1,14; col.4, lines 1-6) with respect to the bottom support (2,3).

18. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the concave mirror anchoring plate of the projection lighting unit apparatus of PECK to include the type positioning member with photo-electric cell as taught by GUILLAUME in order to adjust the axial position of the mirror-light assembly to give a desired output light projection.

19. Claims 6, 20 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over PECK (US 5,295,056) in view of FOLEY (US 1,408,875).

20. PECK discloses applicant's claimed invention except an arc lamp as the light source and an optical means for converting light condensed by the concave mirror of the light source apparatus into approximately parallel light, an optical modulator for forming an image by modulating light emitted from the optical means, and a projection lens for projecting the optical image.

21. FOLEY teaches the equivalence of using either an arc lamp and incandescent lamp (col.1, lines 95-110) for the purpose of producing bright projection illumination. FOLEY also teaches an optical means (9), an optical modulator (34) and projection lens (33a) for the purposes of converting condensed light from the concave mirror (12-fig.1) into approximately parallel light (fig.1 or col.3, lines 97-98) directed towards an optical modulator (34-film position) that modulates light to form an image that is projected for viewing. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the concave mirror anchoring plate of the projection lighting unit apparatus of PECK to include the type of arc lamp, optical means, optical

modulator and projection lens as taught by FOLEY in order to form a light projected image for viewing.

22. Claims 29 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over GRAHAM (US 1,909,946).

23. GRAHAM discloses applicant's claimed invention except: an optical sensor as the condensed-state confirming means and any of a tungsten lamp, a halogen lamp, a semiconductor laser light source and optical fiber used as the adjusting light source. GRAHAM does teach that confirmation of light successfully or unsuccessfully following a predetermined path (53,89) towards light receiving plate (91) at points (95-fig.3) is determined by an observer that is known to use eye(s) to sense light. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify the focusing apparatus of GRAHAM to include an optical sensor such as an observer as taught by GRAHAM having eye(s) in order to observe the state of light emitted from the adjusting light source.

24. As for the type of adjusting light source, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify focusing apparatus of GRAHAM to include at least a halogen lamp, since it was known in the art that a commonly used light source depicted as and disclosed as electric bulb with a filament (col.3, lines 28-29) by GRAHAM would include at least an incandescent bulb which would include a halogen lamp. One would have been motivated to use a halogen

lamp bulb as the adjustable light source in order to produce to produce bright light and facilitate centering on the optical or geometric axis of the reflector.

Allowable Subject Matter

25. Claims 8-19, 21, 23, 31-43 and 45-52 are allowed.
26. Claim 28 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
27. Claim 44 is objected and would be allowable if rewritten or amended to overcome the minor informality stated in paragraph 2 above.


Conclusion

28. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. RICHARDSON (US 4,914,556) shows a light projection device using an arc lamp (12) adjacent a concave mirror (13). LITTLE (US 4,519,020) shows a reflector or concave mirror (20) movable along (figs.1-3) a bottom plate (12) by movable plate (22). OBERG et al (US 1,876,511) show a lamp and concave reflector longitudinally movable along a housing that includes lens an optical modulator. DOUGLASS (US 2,258,355) shows light testing of a lamp with reflector by means of an optical sensor aligned on the optical axis. CLARKSON (US 2,293,014) and ANDERSON et al (Us 3,026,408) show first and second concave reflectors with a lamp bulb movable with each other and movable relative each other, respectively.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alan Cariaso whose telephone number is (703) 308-1952. The examiner can normally be reached on M-F (9:00-5:30 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandra O'Shea can be reached on (703) 305-4939. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0956.



Alan Cariaso
Primary Examiner
Art Unit 2875

AC
March 9, 2003